

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Status of Claims:

No claims are currently being cancelled.

Claims 1, 3, 29 and 32 are currently being amended.

Claims 37-47 are currently being added.

This amendment adds, amends and cancels claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-17 and 29-47 are now pending in this application.

Claim Rejections – Prior Art:

In the Office Action, claims 1-17 and 29-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,194,769 to Martin in view of U.S. Patent No. 5,238,729 to Debe; and claims 1-17 and 29-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Debe in view of Martin. These rejections are traversed with respect to the presently pending claims under rejection, for at least the reasons given below.

The Office Action asserts that Martin discloses having a sensor with aligned particles in a nonconductive region, which is used to detect analytes. While Martin teaches the use of a magnetic field to cause magnetic particles to aggregate the mixture in ordered formations (see column 4, lines 8-13 of Martin), this does not meet the features of the dynamically aligning means recited in claim 1. See, for example, page 6, lines 15-21 of the specification. In particular, the dynamically aligning means is performed by exposing the conductive

- material to at least one of: an electrical field, a thermal field, a photoelectric field, a light field, and a mechanical field. None of these fields corresponds to a magnetic field, such as is used in Martin.

Accordingly, presently pending independent claim 1, as well presently pending independent claims 29 and 32 that have been amended in a similar manner, are patentable over the combined teachings of Martin and Debe.

The presently pending dependent claims under rejection are patentable due to their dependency one of the base claims discussed above, as well as for the specific features recited in those dependent claims.

New Claims:

New claims 37-47 have been added to recite additional features of the present invention that are believed to provide a separate basis for patentability of those claims.

New claims 37-39 recite specifics of the dynamically aligning means that are not taught or suggested by Martin or by Debe. The features found in new claims 37-39 may be found, for example, on page 9, lines 14-25 of the specification.

New claims 40-42 recite features related to different concentrations of non-organic material making up the nonconductive regions of the first and second sensors, as described, for example, on page 12, lines 4-10 of the specification. Such features are not taught or suggested by Martin or by Debe.

New claims 43-45 recite features in which the alignment occurs after fabrication, whereby Martin clearly describes a process in which aggregation occurs during fabrication. See Abstract of Martin, which states that the “conducting particles of such field-structured materials can be precisely controlled during fabrication.”

New independent claim 46 recites, among other things, that the conductive material is non-magnetic. Neither Martin nor Debe teaches such a feature. In particular, as correctly recognized in the Office Action, Debe does not teach or suggest the use of aligned conductive

materials. Rather, Debe places a material in a substrate, places a conformal coating on that material, and then places an encapsulation layer on the conformal coating. Martin teaches the use of a magnetic conductive material, which is clearly different from the subject matter recited in claim 46.

Dependent claim 47 recites a group of non-magnetic materials that may correspond to the claimed non-magnetic conductive material. See page 6, lines 24-26 of the specification. None of these claimed conductive materials corresponds to a magnetic conductive material such as is used in Martin.

Conclusion:

Since all of the issues raised in the Office Action have been addressed in this Amendment and Reply, Applicants believe that the present application is now in condition for allowance, and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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